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IRITIS; DIAGNOSIS AND TREATMENT.

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Read before the Northern Medical Association, April 23d, 1880.

MR. PRESIDENT AND GENTLEMEN—My reason for bringing the subject in consideration before you this evening is, that I think it among the most important of ocular troubles: not only, that if left unchecked it nearly always terminates in either visual impairment or total blindness; but by correct appreciation of early local changes which are free to inspection, and proper interpretations of symptoms which are almost pathognomonic, we can easily render, by a well directed medical or surgical course, an almost doomed eye perfect, or of great value to its possessor.

The appreciation of these facts has induced me to systematically examine the subject with you, in hopes of arriving at some conclusion in correct diagnosis and proper treatment.

1st. Let me cursorily give you the anatomy. (The lecturer here gave a concise account of the anatomy of the organ.)

Dixon, in his work on "Diseases of the Eye,"* says; "We first meet with the word 'Iritis' in a treatise by Schmidt, of Vienna, published in 1801." This assertion must seem surprising, and we can hardly believe that a disease so prominent in its symptoms should be scarcely recognized or described until such a late date.

At various intervals the medical world has been at war in reference to the divisions of the disease, some classifying the different forms according to seemingly pathognomonic dyscrasiæ, while others assumed distinctions based upon the pathological anatomy of the organ.

For my purpose this evening, I intentionally avoid making numerous distinctions between the various allied forms of the disease, and shall merely consider them under the broad heads of traumatic and idiopathic; their age, of course, necessitating another great division—acute and chronic.

(The lecturer here read two amusing descriptions of the disease, given by two German writers, Rau and Van Ammon, as quoted by Dixon*.)

What are the symptoms of an iritis?

I can best illustrate this by the recital of a few representative cases which have recently come under my immediate notice.

H. S., aged thirty years, wheelwright, noticed, four days previous to my having seen him, a soreness of his left eye, accompanied by dread of light and profuse lachrymation; cephalalgia, more intense in the left periorbital and temporal region, keeping him awake at night. For this group of symptoms he had used some kind of eye water.

Upon inspection of his left eye, I found both conjunctival and ciliary injection; the former slightly encroaching on the corneal limbus; cornea clear; iris mobile, but rather sluggish in radiary contraction. You notice I make use of the term radiary contraction of the iris, in contradistinction to the meaningless one of pupillary dilatation. I cannot conceive of the motion of a

* "Diseases of the Eye," 1860, p. 137.

* "Diseases of the Eye," 1860, p. 139.

void, and I think it would be far better to discard the term, and give the action of the iris its true verbal signification, expressing dilatation of the pupil by radiary contraction of the iris, and contraction of the pupil by circular contraction of the iris. To continue with the case, I found the pupillary border presenting a purplish vascularized appearance, two millimetres in breadth, very marked as compared with the remaining blue color.

Instillation of atropia caused even a full radiary contraction, with the exception of a strong posterior adhesion to the nasal side, no other tags or marks being visible. His vision with that eye before the use of the drug was but slightly diminished, being $\frac{20}{xxx}$ as compared with $\frac{20}{xx}$(?) with his right eye, and a limitation of accommodative range of seven to eleven inches, as compared with seven to eighteen inches.

In October of last year I saw a patient, aged fifty-one years, a seaman, who said that his left eye had become primarily sore about the middle of August, the right eye following one week later. Had had some photophobia. No headaches whatever. Had been under medical treatment, consisting of a collyrium of atropia and the internal use of one twenty-fourth of a grain of corrosive sublimate three times daily, for three weeks. For the past week he had been treating himself by potato poultices, blisters, etc. He stoutly denied any venereal history, although by indirect questioning I succeeded in eliciting the past existence of a skin eruption, alopecia, and nocturnal rheumatism.

In both eyes the conjunctival and anterior ciliary vessels were engorged and visible. The pupillary border of the right iris was heart-shaped, long axis at 75°; and situated upon the upper outer pupillary edge there was a gummy infiltration, as delineated in the crayon sketch I have placed on the board. The pupillary rim of the left iris was horizontal oval, figure-of-eight-shaped. Irides same color and corneæ clear; vision greatly impaired.

Another patient, whom I saw but a few weeks ago, presented upon the pupillary border of his left iris an irregular gummy infiltration, occupying the entire width of the smaller circle, which was enlarged, reddened and vascularized. The temporal and frontal neuralgia of this patient was so severe as to prevent sleep.

From these three instances you will notice that the principal subjective symptoms are intolerance of light; neuralgia around the affected eye, generally nocturnal; *dimness of vision*, and often general febrile disturbance. While the objective symptoms are characterized by lachrymation; sluggish muscular action of the iris, which is dependent either upon adherent bands, thickenings, or neoplastic formations in the iris structure, and change in color, which upon careful examination, is easily discernible; but no dependence can be placed upon the degrees of the symptoms; their intensity being no measure for the gravity of the case. I have here to-night a patient who beautifully illustrates this.

You will now properly ask me some of the principal causes, in order that, having a correct idea of the effects, you may make intelligent search to determine their true character.

Among these may be enumerated six prominent classes, the first five being considered more or less of traumatic origin, while the last must be regarded as purely idiopathic.

1st. Mechanical rupture of the substance of the iris.

I have never personally seen an iris inflamed from a break in its continuity, but Mackenzie* has given cuts of several cases coming under his observation.

2d. The presence and incessant motion of a foreign body in the aqueous humor; as, for instance, a piece of iron in contact with the surface of the iris; swelling of a forming cataract; escape of a portion of the cortical substance of the lens through its capsule; or even true lenticular luxation.

These varieties are not at all rare, it being almost a weekly occurrence, at any of our large dispensaries, to see an iritis so originate.

3d. Hernia of the iris through the corneal wall.

I have distinct recollection of a case of this kind, coming under my observation about eight months ago. E. J. M., aged twenty-nine, a cloth finisher by trade, said that eighteen days previous to my having seen him he had been struck in his right eye with a piece of iron. Had experienced a great deal of periorbital pain and lachrymation, for which he had been using unguentum belladonna and an eye water. Lost sight in about two weeks' time. At his first visit I noticed he had both conjunctival and ciliary injection. The iris was prolapsed through a corneal cut at the lower outer quadrant. Cornea slightly hazed, more especially around the wound. Iris discolored. No reflex from fundus.

4th. Extension of inflammation from some other diseased portion of the eye. A fruitful source being in the improper use of collyria, acting by extension through an irritated cornea.

* 4th edition, pp. 396-7.

5th. Excessive and continued accommodative efforts; improper light; sudden variations of temperature.

6th. Dyscrasia.

I think this a good opportunity to point out to you the folly of endeavoring to fully recognize diatheses in idiopathic inflammation of the iris. At present we use the terms syphilitic, rheumatic, etc., to indicate our ideas of cause only, as we know it is almost impossible, by simple inspection, to proclaim a variety of inflammation. All we do know is, that in certain cachexiæ the workshops of assimilation—the vascular and neuritic systems—have been so modified or poisoned as to throw out bad labor, imperfect cell formation, undergoing premature death; true retrograde metamorphosis, caused by abnormal development. That the iritis of dyscrasia is most certainly a mere local expression of great blood changes cannot be doubted; the nature of which will require a future era to bring its "metres and scopes" into acquisition, to be appreciated by the physical senses; the only difference between the various forms being in the dissimilarity of the cause; the results remaining almost the same.

Stelling* says "Iritis occurs at any time of life. It often destroys the good results of an operation for cataract in the most advanced old age, and it is also observed in the newly born;" and Himley† even asserts its occurrence in fœtal life.

Early adult life furnishes the greatest number of cases, which, on account of greater exposure, is not difficult to understand.

The course the disease assumes is extremely variable, sometimes reaching the acme of inflammation in a few days, and as quickly disappearing. This I have designated to you as an acute attack; but I have seen cases presenting exceedingly slight symptoms, for months and months—even entire remissions, with occasional exacerbations. Of course, these constant sources of irritation convert an acute into the chronic type of the disease.

The sequelæ of iritis are exceedingly numerous, their nature in great measure being dependent upon the degree of intensity and duration of the primary inflammation; the most formidable being the presence of adhesions between the anterior capsule of the lens and the posterior surface of the iris, or between the posterior surface of the cornea and the anterior surface of the iris. These tags prevent proper muscular contraction, thus producing constant strain and irritation. They may even surround the entire pupillary border of the iris, leading to the most disastrous results. I shall cite you two personal instances.

N. S. (colored), aged thirty years, a gardener, gave a history as follows: Fifteen years previously both eyes were inflamed; also at various intervals since. Two weeks before I saw him his left eye had again become sore, associated with temporal and periorbital pain, mostly nocturnal, for which he had been using poultices of bread and milk.

Upon examination I found in the left eye marked conjunctival and ciliary injection; cornea diffusely hazed; pupillary space small and ovoid; long axis at 135°, the border caught below and in at the point of a corneal macule. The pupil of the right eye was slit-like, six millimetres in length, angle 105°, the border caught both above and below in maculæ corneæ. Under stimulus of light the slit was widened and narrowed. Vision with this eye was only reduced to one-fourth, while in the left eye there was but one-thirty-third vision.

In April of last year I saw a young man, aged eighteen, who for the past four years had been totally blind in his left eye, the result of a blow from a stick.

The organ afforded a fine example of pupillary occlusion. The iris degenerated, discolored and streaked with blood-bearing vessels visible to the naked eye; iris tissue bulging, leaving a funnel-like pupillary space, and causing a very shallow anterior chamber, at the bottom of which were masses of cholesterin crystals.

Another is permanent atrophy of the iris tissue, rendering it friable and sometimes almost rotten. This is also seen in the tough, tendinous degenerations found in places of previously existing gummata.

If, during the course of the attack, there has been a large hypopyon, it generally leaves a series of cloudy striations covering the two surfaces of the iris and walls of the anterior and posterior chambers.

These latter forms of sequelæ have been well exemplified in the case I have just given you; that is, the atrophic iris tissue and the masses contained in the anterior chamber (in this case the possible results of a neglected hyperæmia).

I purposely avoid speaking of complicated iritis, that is, irido-cyclitis, irido-choroiditis, etc., as it would lead you into details necessitating accurate knowledge of histological anatomy, besides frequent observance of minute symptoms

* "Treatise on the Diseases of the Eye," 1868, p. 185.
† "Krankheiten des Auges." Berlin, 1844, p. 100.

which are not accessible in a general medical practice.

The treatment I shall divide into that of the acute and chronic, which will be subdivided into topical and general.

What are the indications in the topical treatment of an acute case?

1st. If the case be caused by the presence of a foreign body, the removal of the cause. Thus, a piece of iron or steel lying in the anterior chamber, scraping and scratching the already irritated iris, should never be allowed to remain, with the vague hope of absorption.

I remember a case occurring in the public practice of a medical gentleman of this city. A laboring man had an iron chipping imbedded in the inferior nasal quadrant of the iris. The cornea and lens were clear; iris slightly thickened and irregularly mobile at the point of foreign body. I was detailed to administer an anæsthetic; but upon the man's positive refusal the physician endeavored to extract. Owing to the constant motion of the eye, the attempt was unsuccessful and the operation was deferred for a few hours. The man never returned, and I afterward learned that his eye became totally blind.

2d. If the iritis originates from prolapse, an iridectomy should be performed, by snipping off the prolapsed portion.

This case will afford a good instance: J. M., aged six, a schoolboy, applied at the clinic of Wills Eye Hospital. The child gave the following history: Twenty-four hours ago, left eye struck by a stone; wound bled at the time. Much frontal and periorbital neuralgia since. Upon examination it was found that the iris was prolapsed through a cut in the lower outer quadrant of the cornea. Slight corneal haze. Iridectomy embracing the prolapse was immediately performed, and eserine instilled. In a few days the eye became quiet and vision rose from ½ to normal.

3d. To give the iris rest.

This is done by artificial mydriasis, paralyzing the circular muscle of the iris, which would be in constant motion in its endeavor to regulate the size of the pupil. Also lessening and contracting the blood vessels, with consequent diminution of congestion and probability of fibrinous effusion.

4th. To prevent adhesions.

This is also accomplished by mydriatics, which separate the pupillary border and lift the posterior surface of the iris off the dome of the lens.

5th. To annul neuralgia.

This is partly done by mydriasis; but if the pain be very severe, it is always advisable, in a plethoric subject, to extract blood from the temporal region, preferably by means of Heurteloup's artificial leech.

If the patient be anæmic it may be better to use hypodermic injections of atropia and morphia combined, or dry cupping.

We now come to the general treatment:—

1st. The stoppage of all extraneous conditions tending to aggravate the disease.

The patient must endeavor not to subject himself to extreme variations of heat and light. These two conditions can be guarded against by keeping within doors and the wearing of protective spectacles.

2d. Lowering pyrexia and keeping the emunctories well open.

I have found that the first of these indications can be best fulfilled by well regulated doses of quinine. For the second, calomel exhibited in small doses, say one-sixth of a grain, in combination with ten-grain doses of bicarbonate of soda every few hours, until active purgation ensues.

3d. The special treatment of the diathesis.

Attack the poison, whatever it may be—syphilis, rheumatism, or other debilitating and lowering dyscrasiæ. Rid the general system of its enemy. *Treat the cause*, meanwhile not forgetting the local remedies to which I have just referred. We must remember the old established rule, that it is not only the province of the medical man to gain his knowledge wholly from a single organ, and direct his treatment to the same; but he must study the general condition of his patient, and see if he cannot find a cause for the local change, or even a similar condition affecting another portion of the body—taking care to fully understand the variety of results produced by the same diathesis in the different viscera, and not falsely associate the difference between susceptibility and the character of the impression.

In the use of mercury, and the choice of its preparation, I have but little to say. If we meet a case showing synechia, gummata, hypopyon, effusion into the crypts of the iris, or even thickening of its tissue, it is best to administer some form of the drug. It is thought, by nearly all, that the method by inunction possesses many advantages, which from my limited experience I must heartily endorse.

The treatment of a chronic iritis during the exacerbations resolves itself into that of the acute. During the remission much may be done in the way of tonics and general alteratives. Operative

interference, as a rule, is not favorable, although I remember that at the Wills Eye Hospital, during the year 1877, Streatfield's and Passavant's operation for the removal of posterior synechia, were several times performed, with comparatively good results.

Iridectomy for papillary occlusion is of frequent occurrence, and often leaves the eye in a greatly benefited condition.

If you find an eye with almost worthless vision, tension soft, associated with ciliary tenderness, and with some ciliary sympathy of the opposite organ, it is always best to immediately enucleate the affected globe.

In order to show you the importance of sufficient knowledge on the part of the general medical man to correctly diagnose and properly treat this affection, I have compared the number of uncomplicated and complicated iritis with the total number of eye patients who have for the past several years applied at the three great special dispensaries of our city. Out of a total number of 31,988 cases, there were 1613 of iritis, and its immediate complications, or about one in twenty, or five per cent. of the total; if, of these, I tell you that many of them have been aggravated in their early stages by the general practitioner, you will not be surprised at my desire to explain what little I am capable of.

I now abjure you to learn to know when to exhibit topical remedies to an eye; not at haphazard to instill a collyrium into an inflamed eye, without most thoroughly inquiring the cause of the trouble.

981 *North Fifth Street.*

SURGICAL ACTIVITY IN THE TREATMENT OF HEAD INJURIES.

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The class of injuries to be considered is an important one in its diagnostic and therapeutic bearings. The difficulty of discriminating between the different forms of cranial fracture and estimating the relative importance of symptoms accompanying them, is only equaled by the uncertainty that envelops the treatment of these serious injuries. It may seem paradoxical to say that it is not the treatment of the fracture that is troublesome; but such is, in truth, the case; for, though we do treat the fracture, it is the difficulty of determining the best method of so doing, on account of the uncertainty of the condition of the brain beneath, that causes anxiety. Fractures of the cranial bones could be easily managed, were it not for the contained brain and nerves; hence it may almost be stated, that the surgeon pays deference to the encephalon in head injuries, and thinks little of the proper osseous lesion in itself.

It is the well known inactivity of the profession in obscure head injuries, and the tendency to depend upon expectant treatment, that has induced me to consider the subject in these columns. Romance has made us familiar with the folly of the man who was always waiting for something to turn up; and such, verily, is often the condition of that physician who waits for something to turn up after severe injuries of the skull. While he treats expectantly, his patient turns downward to the grave, when the surgeon, by prompt action, might have averted the fatal issue due to depressed or splintered bone, or secondary inflammation.

In many departments of medical science it is necessary for us to be on our guard, lest we play the part of meddlesome attendants; but here the sin is usually one of omission rather than of commission. Few have done harm in our day by too active phlebotomy in brain injury, by trephining when there was no indication for such treatment, or by incising the scalp to determine the seat and character of bone lesions; yet in my opinion many a patient has died because of the omission of such procedures as venesection, trephining, and incision over the obscure simple fracture.

It is unnecessary to discuss the accepted treatment of such cases, except to mention the bare outlines. In simple concussion or brain shock during the stage of collapse, lowering the head and very careful stimulation is eminently proper. Let every one remember, however, that concussion, as a rule, means contusion or laceration of brain substance, and that inflammatory reaction may occur as a sequel. Encephalitis, resulting from contusion, due to intracranial hemorrhage, or following splintered or depressed bone, is undoubtedly to be treated by ice locally, purgatives, bromide of potassium in full doses, opium, and perhaps mercury in small doses. Of these principles perhaps not one will be considered as occupying a position liable to assault; but let the other proceedings above mentioned be suggested in a case even admitted to be hopeless, and a cloud of doubt shadows the face of the listener.

Phlebotomy should not be employed in the collapse of concussion; but when overaction

occurs subsequently, or when inflammatory symptoms arise after fracture or contusion of the skull, venesection should not be excluded from the catalogue of remedies. A full, bounding pulse, headache, delirium and sthenic symptoms call for the abstraction of blood. It is no very unusual thing to see a surgeon allow considerable hemorrhage during operations upon the skull after fracture, because it will have a tendency, he says, to avert inflammation of the brain. True; why, then, do we so often neglect to open a vein of the arm to avert the impending cerebritis, when no traumatic hemorrhage occurs? It is because it has become unfashionable to bleed; and thus the patient is allowed to pass into a condition of active cerebral congestion. I should bleed in such conditions, and have done so, without waiting for deepening coma and stertorous respiration to foretell the damage done by the inflammatory process.

Trephining is not a serious operation in itself, but has received a bad name because it is only required in cases that are serious in their nature. The injury, fracturing the skull, is usually sufficient to cause contusion and laceration of the membranes or brain, and it is from the brain injury that the patient dies, not from the hole made by the trephine. That the operation is almost innocuous is seen by looking at the results in former times, when men were operated on repeatedly for affections in which trephining was supposed to be beneficial. If performed with care, without rupturing the membrane, there is, in my opinion, little risk from the operation; but I feel that I have seen it omitted where the patient would, in all probability, have been saved by its performance. Let a small trephine be used, as it is merely necessary to obtain an opening for the introduction of the elevator, and the patient will, at least, not die from spicules of bone irritating the membranes and setting up inflammation. This is the sequence most to be feared from the omission of trephining, since it is, to a certain extent, questionable whether depression of bone alone is sufficient to produce death. We often have the combination of symptoms called compression of the brain occurring when there exists a depressed fracture of the cranium, but it is probable that it is an intra-cranial hemorrhage that is the cause of the symptoms. The crucial incision over the point to be trephined is often recommended, but seems far inferior to the semilunar or elliptical incision, by which a flap is formed. To get sufficient room for operation and examination by a crucial incision, it must be made large; and it probably divides more vessels than the flap incision. The use of the metallic shield or plate, spoken of as a protection after trephining, is seldom if ever needed, for the opening is soon filled by a firm semi-cartilaginous deposit. It might be of service when a large portion of the skull has been removed after a severe crushing in of the cranium, but can scarcely ever be required after a simple trephining for an ordinary comminuted or depressed fracture.

The metal disk and the crucial incision seem to me to be surgical traditions, which have not sufficient intrinsic worth to be retained, though they may still be spoken of with the respect due to their antiquity.

The inactivity of the attendant is sometimes shown by a disinclination to make an exploratory incision of the scalp in cases of doubtful depression, or doubtful fracture after injuries followed by serious symptoms. This arises from the idea that a compound fracture is more dangerous than a simple one. True, especially in fractures of the limbs; but in skull fractures little difference exists in the prognosis of simple and compound fractures, provided the encephalon remains intact. Hence the conversion of a simple fracture into a compound one is of little moment if it gives opportunity to examine and treat the injury done to the brain and its membranes.

The treatment of simple and compound fractures of the skull should not be considered very different, because nearly the whole of the treatment relates to the brain rather than to the bone. There are no muscles to cause displacement and deformity, and there is no danger of non-union; hence the fracture seems trivial if considered alone. The feature of simple fractures that renders them so troublesome to the conscientious surgeon is the obscurity that surrounds them. Though injuries of the head due to great and diffused force are probably complicated with brain lesions, and hence scarcely amenable to operative treatment, it is nevertheless of moment that the surgeon have a clear perception of the degree of local injury.

It is for this reason that I so strongly advocate the practice of making the simple fracture a compound one in some cases of doubt; and of making a scalp wound at times, if the existence of a fracture is suspected, and if the treatment would be modified if its existence were positively known. A scalp wound is nothing, but concealed fracture with fragments driven into the brain means death. A scalp incision for pur-

poses of diagnosis may therefore often be made, and is frequently of infinite service in clearing up the obscurity of the lesion and aiding in suggesting the treatment to be adopted.

1118 *Arch Street.*

WHY THERE IS A PERIOD TO LIFE.

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That all living things, vegetable and animal, exist but for a limited period, is a truth familiar to every one. From the most lowly plant up to man himself all are doomed to pass away, to dissolve into the elements of inorganic creation. The law is universal; an exception to it is looked for in vain. Death awaits in common everything that is possessed of life.

Now, there are doubtless very few persons to whom has not occurred the question, why do we die? It is in every respect a legitimate one to ask, and we should at least try to furnish a satisfactory, a rational answer to it. That is what I propose to do briefly in this article.

Man has been curious to know why he is mortal, from the earliest times; and he was not slow to frame explanations of the fact. Like many other things which are very difficult to find out, or to comprehend, the very difficulty of the matter led early to its elucidation, in a way. Being beyond the easy ken of students of nature, it was taken hold of by students of theology, or rather elaborators of theology. An explanation of the origin or cause of death constitutes an important item of the scriptures of most religions; and it is essentially the same in all. Man is mortal in consequence of violating the command of a supernatural power; or, in other words, in consequence of sin. Thus St. Paul says, "By one man sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned." Of course, the eating of "the forbidden fruit" by Adam is here referred to.

Passing over similar ones, I may remark of the Mosaic explanation of man's mortality, that it has been and still is satisfactory to millions of people; but even if we take it as such, we are still in the dark as to the reason why other living things die. Human transgressions have had nothing to do with the origin of the mortality of other creatures; for death prevailed among them myriads of years before man appeared on the earth. The presence of their fossilized remains in the oldest strata of the earth's crust sufficiently attests the fact. Apart from other reasons this failure of the explanation to cover the whole ground impels one to doubt its validity, even in the case of man; and, in consequence, students of nature are forced to still occupy themselves with the problem.

It may be safely asserted that the real cause of death among living things, including man, is not undiscoverable. I believe that human knowledge has advanced far enough to enable us to correctly explain it. Every-day observation, as well as common sense, teaches us that there is a reason, a cause, for the death of everything; so it must be a subject which admits of scientific elucidation. The inductive method of study brought to bear on organic creation—which an enlightened philosophy teaches us is a systematic scheme—has cleared up so many difficulties which formerly seemed insuperable, that there are substantial grounds for confidence that this one will yield to it in the fullest degree.

Why is it, then, that we die? The reason is to be found in the fact that life is conditioned. Life is possible under certain conditions and impossible under others. Heat is necessary; so is air; and so is food. Without suitable heat and air and food, or any one of these, life cannot be. While the earth was in an incandescent state life did not exist thereon; because the heat was too great to admit of it. While the atmosphere was saturated with carbonic acid only plants existed; for when this gas is present in large amount it is destructive to animal life. And plants must have existed before animals, because the latter cannot draw sustenance directly from the inorganic world. Do we not see, then, that in understanding why we live, we at the same time get a clue to the reason why we die? While life is present death is not, and *vice versa*. To die is to cease to live.

Now, life being conditioned, of course, if the necessary conditions were wanting it could not exist.

I have just spoken of some of the necessary external conditions; but there are conditions of the organism as well as of the environment, which, if wanting, life cannot exist. Thus, the blood must circulate, the lungs must act, and the nerve-centres must have free play. In man, as in every one of the higher animals, anything which stops the functional action of the heart, or of the lungs, or of the brain, results in death. In organisms in which these organs are present in rudimentary, or specially modified form, the same result follows when they are interfered with, so that their functional activity is seriously perverted, or stopped. Between the internal and the external conditions there is a sort of antagonism. Herbert Spencer lays great emphasis on this an-

tagonism; he goes so far as to regard life as "the continuous adjustment of internal relations to external relations." However, our argument leads us to the conclusion that it is inconceivable that an immortal being could exist in a world where the essential conditions of life are liable to be removed If life were entirely independent of conditions it might continue for an indefinite length of time.

But how is it that age leads to death? Simply because the conditions necessary for the continuance of life are removed thereby. And we must search for the cause within the organism. The necessary external conditions still remaining, of course, the trouble must be seated in the internal conditions. Something must occur to the organism which results in the suspension of one or more functions necessary to life; because, as the medical philosopher Broussais puts it, "for a person to die, it is necessary that the principal instruments of life should be seriously injured." Some change is produced in the organism which interferes seriously with circulatory, or respiratory, or nervous action. And here I may say that if any one of the necessary functions is affected, all others suffer in consequence. The various parts and functions are intimately related to one another; each is, in a measure, dependent on all the rest for its welfare. From these premises it follows that death from age may be caused in different ways. In one person it may result through circulatory defects, in another, through respiratory defects, and in another, through nervous defects. To be sure, all these functions may be gradually encroached upon at the same time; and I imagine that in ideal death from old age such is the case.

Most physiologists hold that death from old age begins in the nervous system, in the brain. Bichat, the French genius who laid the foundation of modern physiology, in his immortal work on life and death, elaborated this belief. He came to the conclusion that the distinguishing features of animal life are merely additions to vegetable life. He says, "The functions of the animal are of two very different classes. By the one, which is composed of an habitual succession of assimilation and excretion, it lives within itself, transforms into its proper substance the particles of other bodies, and afterwards rejects them, when they are become heterogeneous to its nature. By the other it lives, it perceives, it reflects on its sensations, it moves according to their influence, and frequently is enabled to communicate its voice, its desires and its fears, its pleasures and its pains." The aggregate of the functions of the first order he named the organic life, and the aggregate of the second, the animal life. When death is typically natural, the animal life is cut off in advance of the organic life.

Death in man and in all animals begins in the central portion of the nervous system, in the brain. Dr. B. W. Richardson, whose views on this subject are essentially the same as Bichat's, in his work on diseases of modern life, says, "The end, when it comes at the duly and fully appointed time, is, I believe, always preceded by failure of the nervous stimulus. The muscles would continue to act if they were excited and directed into action; the secretions would proceed, and in truth often do proceed, when the faculties of the mind and of volition have ceased; but the nervous organism, through its varied parts, fails, and with it die all the parts that depend upon it for animation." I believe, as already stated, that from the dependence of the various functions on one another, the actual cause of the exhaustion of nervous energy or vital force may be located elsewhere than in the nervous system.

It used to be, and is still, the belief of some, that the essential cause of death from old age is the exhaustion of an inherited stock of vital force. One of Shakspeare's characters says of his life that it

> "Bleeds away, even as a form of wax
> Resolveth from its figure 'gainst the fire."

This opinion is untenable. Whatever store of vitality a person may have is constantly being added to as well as subtracted from; and it is in no wise necessarily lessening in its totality every succeeding day; on the contrary, it may be increasing. There is a constant renewal being effected; and herein lies the element of greatest difficulty in explaining why we die; for as Bacon says, "that which may be replaced by degrees without a total waste of the first stock is potentially eternal as the vestal fire."

While life lasts there is constant change going on in every organ of the body; old particles are constantly being replaced by new ones, which in their turn are replaced by others. This molecular change goes on at varying rates of speed in different organs and at different times. Some glands are replaced entirely in a few days, while bones change but slowly. Exercise hastens molecular activity or nutritive action in all the tissues; and various medicines known as stimulants and alteratives have a similar effect. It was formerly, and is still to some extent, the popular belief that the entire composition of the body is changed once every seven years.

This nutritive activity is the fountain of life, the source of all vital phenomena; while it continues the organism is said to be alive, and when it stops, the organism is said to be dead. From the beginning to the end of life it goes on incessantly. Does it not follow that death from a gradual running out of vitality results from the gradual stoppage of this nutritive activity? The power of repair fails, and when it ceases altogether dissolution sets in. As Dr. Rush, in his admirable essay on old age, says, "death from old age is the effect of a gradual palsy."

I believe, then, that the immediate cause of death from old age is exhaustion of vital force, or rather, of the power of reproduction of vital force. Says Dr. Carpenter, in his work on physiology, "Of this diminution of formative power we have evidence in the entire absence of any attempt at new development, in the less perfect and more tedious manner in which the losses of substance occasioned by disease or injury are recovered from, and in the gradual deterioration of the organism in general. The tissues which are rendered effete by their functional activity are not any longer replaced in their normal completeness; for either the quantity of new tissue is inadequate, so that the bulk of the organism is obviously reduced, or their quality is rendered imperfect by the production of structures in various phases of degeneration, in place of those which had been previously developed in the fullest completeness. The inferiority of nervo-muscular energy and of general vigor are thus evidently the result of the deficiency, and not, as in the period of growth, of the excess of formative power; and in proportion as the waste of the tissues consequent upon their functional activity is more rapid than their renovation, a progressive loss of substance must take place. The forms of degeneration most commonly met with in advanced age are the fatty and calcareous." Why this reparative power should fail, must, I believe, be sought for in structural change. Dr. Richardson believes he has found out what this change is. He says: "I have learned that the gradual transformation of the vital organs of the body from the advance of age is due to a change in the colloidal matter which forms the organic basis of all the living tissues. In its active state this substance is combined with water, by which its activity and flexibility are maintained in whatever organ it is present—brain, nerve, muscle, eyeball, cartilage, or membrane. In course of time this combination is lessened, whereupon the vital tissues become thickened, or to use the technical term, "pectous." By attraction of cohesion the organic particles are welded more closely together, until at length the nervous matter loses its mobility and the physical inertia is complete."

But I have not yet done more than hint at the reason, or reasons why we die. I have merely stated what occurs as death approaches, namely, that the tissues become more and more condensed and somewhat changed in substance, and that the vital power is gradually lessened. Just why these changes should occur has not been explicitly stated. Dr. Richardson, in discussing the subject, comes to the conclusion that "death is part of the scheme of life—is ordained upon a natural term of life." This statement is unsatisfactory to every questioning mind. We want to know something more; we want to know the reason why life passes away? why it is limited in date. I think this information can be furnished, and that the cycle of life need not be regarded as mysterious. The philosophy of why we die may be stated in a few words. It is a well established fact that in body and mind we reflect, in a great measure, the traits of our ancestors; or, in other words, for what we are in structure and function we are largely indebted to inheritance. At birth some of us are healthy, free from taints of disease, while others are just the reverse. Our parents have bequeathed to us bodies of various degrees of soundness. Those soundest to begin with are most likely to be the last to die. Now, passing through life we are constantly subjected to a great many influences which tend to destroy the vital spark. We have to contend with the elements, heat and cold, with mental dislikes, and so on. These influences which tend to destroy life are constantly contending with our vital powers, and when the former triumphs, destroys the latter, death is, of course, the result. This may come in a few days, or in a few months, or may be postponed for a hundred years; but it is the inevitable end of the struggle in every case. Let us foster and fortify our vitality as we may, it will give out. Extreme age is simply the longest period that life can hold out against the physical forces which are constantly operating to destroy it. Changes of structure are due to vicissitudes of vital action, and these lead gradually to impairment in the power of renewal of the latter. Such is, in brief, the explanation of why we die.

2210 *Fairmount Avenue.*

—M. Verneuil, surgeon to La Pitié Hospital, and Dr. Charcot, chief physician of the Salpêtrière, have been made officers of the Legion of Honor.

Hospital Reports.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

CLINICAL LECTURE BY WM. GOODELL, M.D.,

Professor of Clinical Gynæcology in the University of Pennsylvania.

REPORTED BY WM. H. MORRISON, M.D.

Carcinoma of the Cervix Uteri.

GENTLEMEN:—The first case is that of a married lady, thirty-seven years old. She has had some five or six children and some miscarriages. A few months ago she began to lose blood and to have a discharge from the womb. She then went to her family physician, who diagnosed carcinoma. She arrived here yesterday, having come a long distance, to see if something could not be done.

On examining the womb, I found that the disease had involved the surrounding parts to a large extent. This is, unfortunately, too often the history of these cases. Women are so liable to have pains in the back and in the pelvic region, that they often pay no attention to them. By and by a hemorrhage occurs, or they have a discharge of some kind, and then they seek a physician. Just here I want to disabuse your minds of one error; that is, that cancer is accompanied with severe pain. Cancer of other organs is usually accompanied with pain, but cancer of the womb generally does not produce more pain than a retroflexion or other ordinary condition of the womb. Often it does not cause as much as a polypus of the womb. It is exceptional in my experience for a cancer to produce pain, except when it has involved the internal os and passed into the cavity of the womb. Then it usually produces great suffering. The woman pays no attention to the slight pains she has, until the appearance of blood alarms her and she seeks advice. By that time the cancer is an open sore, and little can be done for its relief, while if it had been seen earlier the physician might have been able to remove a healthy portion of the cervix, and thus stop the disease.

In this case the cervix is wholly gone posteriorly, and has gone so near to the rectum that I shall have to operate with great care in that direction, as I might possibly hasten the rupture into the rectum. Anteriorly the cervix is all gone except a small rim of tissue behind the bladder.

I told this lady, frankly, that her case was a hopeless one, except under one condition, which I have had happen to me; that is, after the operation all the diseased tissue came away with the slough. I always like to hold out some little hope to these patients. My prognosis here is very bad. All that I can do will be to prolong life.

The operation I shall perform will be to remove, by scraping, as much as possible of the diseased tissues of the neck. Here is the advantage of using one's left hand in these operations. Cancer of the womb is often very fetid, and the odor will cling to the hands for several days. I think it is dangerous to deliver a woman after having soaked one's hand in the juices from a cancer; but using my left hand here, I keep my right hand clean for other work.

I shall take these fenestrated polypus forceps, and with them I can tear away a good deal of this tissue. If you buy a pair of these forceps, I advise you to get them with the obstetrical lock. The more boldly you work the less hemorrhage you have. It is not often that I have much hemorrhage while performing this operation, but occasionally the flow of blood is profuse. I pass my forceps into the cervix, and catching the prominences, tear away as much as possible. Tearing off these fragments, I remove a bleeding and secreting surface. In this case the hemorrhage has not been great; there has been more discharge of mucus. I shall now use these gouge forceps, which have a cutting edge. I remove all until I come to the internal os.

What do I expect to gain by this operation? I expect to get a surface some portion of which will heal, and become covered with a non-secreting surface; I cannot call it a healthy surface. This will lessen the amount of discharge, and then by tearing away this tissue I release the nerves from undue pressure, and lessen pain, although that has not been a marked symptom here. I am now working toward the rectum, and I am going very carefully. I feel here a hard cartilaginous septum, dividing the cervix into two parts. I have made a hole in this cervix so large that I can introduce my four fingers into it. Introducing the Sims speculum and catching the womb with the volsella forceps, the gentlemen on the front seats can see the hole I have made.

I am not alarmed at this hemorrhage, for I know that I can pack this cervix and thus stop it, if it becomes too profuse. I have performed this operation a great many times, yet I have never had a fatal result from it. In one of the cases, as many of you are aware, while operating before you, I made a hole posteriorly directly into Douglass' pouch, but I went on and completed the operation. The woman had a slight rise of temperature the next day, or the next two days, but no more than usually follows the operation. She was able to go to her home, a long distance, in a week's time. I shall now take the curette and try to remove more of this diseased mass. Posteriorly, I have almost reached the peritoneum. There is only a thin layer of tissue between my finger and Douglass' *cul-de-sac*. I cannot pass my finger into the cavity of the womb, and so I infer that the disease has not passed above the internal os.

I have now removed a great deal of this cancerous mass. The next thing that I shall do will be to burn this thoroughly with the benzolin cautery (Paquelin's cautery). I take the cautery out once in a while, because it heats the speculum so hot that it might burn the tissues below.

I have never had secondary hemorrhage following this operation, but I have had severe hemorrhage during it. I was placed in rather an unpleasant position not long ago. I was called to the country to remove a cancer from a lady; I was assisted by the family physician and

the nurse; they were the only persons present. The hemorrhage was very great, and while my whole attention was directed to it, I noticed that the physician, who had not been very well, grew deathly pale, and I saw that he was going to faint. We had to discontinue the operation for a time, while he lay on the floor. There was a bottle of whisky on the table, which I told him to take. There was also some Monsel's solution and acid nitrate of mercury. I saw that he got the right bottle, as I could not leave to get it for him. He soon came around all right, but he did not come back to the bleeding place, but took charge of the ether, and I had to make out with the assistance of the nurse. I tell you, it made me sweat for a while, as the hemorrhage was quite alarming.

I expect that this woman will be able to return home in the course of from ten days to two weeks. After a couple of days there will be a very bad smell produced by this slough, and she will have to use permanganate of potash injections. If there is any rise of temperature I shall give her quinia. She will probably have very little pain. I ordinarily do not have to give an anodyne, but I will direct the nurse to slip into the rectum, as she comes to, a suppository containing gr. j of the aqueous extract of opium. This will relieve the pain caused by the stretching of the perineum, and the soreness in the joints caused by the position in which the limbs have been held.

Now this lady will probably feel a great deal better. She will gain flesh. Her appetite will increase, she will have less discharge, and I may have prolonged her life for a long time. I may have given her two years or more, by this operation, but I think not. I think her life will be measured only by months.

Laceration of the Cervix, Vegetations, etc.

The next is a case of metrorrhagia. What do we mean by metrorrhagia? Menorrhagia means an excessive discharge of blood at the monthlies. Metrorrhagia means a flow of blood from the womb at any time. This woman is twenty-seven years old, married, has had two children, and two miscarriages; the youngest child is two years and eight months old. Both children were delivered by instruments. This looks like some contraction of the pelvis; but it depends a great deal on the physician who attends the case, for some apply the forceps in cases of only ordinary delay.

I will tell you what I expect to find in this case. I know nothing about the case except the short history I have here. I will read the rest of it:—

She has had two hard labors, the children being delivered by the forceps. She has profuse leucorrhœa, a sharp pain in the sacrum, increased by lying on the back, and a dragging pain in the right iliac region. These symptoms have come on since the last pregnancy. Now what is their significance? Leucorrhœa is only another form of hemorrhage. In one, we have a loss of the red blood corpuscles, in the other, a loss of the albumen. Both are exhausting. She has sharp pain in the sacrum, more severe while on the back, and a dragging pain in the right iliac region. I think the sharp pains are due to a displacement of the womb backward, or perhaps to pressure on the ovary. The dragging pain also indicates some displacement. She probably has subinvolution, laceration of the cervix, and lastly, she probably has vegetations inside of the womb. Now this is what I expect to find. I do not think that there is a fibroid tumor, for Dr. Baer says nothing about it in his report. I attribute all her troubles to her confinements. I think, then, that I shall find subinvolution, laceration of the cervix, vegetations and probably retroflexion.

On examining, the first thing I notice is that the os is so large that I can introduce my finger up to the first joint. Now that certainly means something wrong. It must mean a laceration. If the axis of this cervix was prolonged it would strike the ceiling; that is, it looks upward and forward instead of looking downward. Introducing the sound, I find that it curves backward, showing that the womb is retroflexed. Now for the measurement. It measures three inches. It should not be more than 2.75 inches, in a woman who has borne children.

I am pretty sure now that I am right in my last supposition, that is, that there are vegetations in the cavity of this womb. If the sound had passed in four inches, I should have said there is most likely a fibroid tumor or a polypus. In my experience, a womb that is simply subinvoluted, rarely measures more than 3.5 inches. I shall now introduce the curette and see if I can get any vegetations. I feel a roughness posteriorly, and in the right and left cornua, but in front I feel none. I bring away a number of these vegetations. Some of them are almost large enough to be called small polypi. Last week I saw a lady who had been bleeding a great deal at her monthlies. I passed the curette and brought away a beautiful little polypus. It looked like an ear-drop, it was so perfect.

The next thing that should be done here, would be to put the womb in place, and keep it there; but it would not be right to introduce a pessary now, after having curetted the womb, and while she is suffering pain. We will leave that for another time. I will complete the operation for to-day, by making an application of tincture of iodine. This tincture is not quite a saturated one, but nearly so. I use it for two purposes: first, to destroy any vegetations that I have bruised but not entirely removed, and secondly, to prevent septicæmia from the putrefaction of those that have been left in the cavity of the womb. As to the laceration, she would be decidedly better if she had an operation performed for its cure.

What is the significance of the pain in the back? It is due to the pressure of the womb upon the nerves behind it, or possibly to its pressure upon the ovary. Now this operation of removing vegetations is best done at the patient's house, yet I am constantly doing it in my office, without any bad results.

Gentlemen, I was nearer right in my suppositions than I expected. I thought I should have blundered in some of them. I expected to find a laceration, because where a woman has

been delivered twice, or even once, instrumentally, and dates her troubles from her confinement, I generally find a laceration. I expected a retroflexion, because when the womb is subinvoluted it is heavier than natural, and generally topples backward. The reason it takes this form is, because behind we have an empty space, Douglass' pouch, while in front we have the bladder, which always contains more or less urine, and thus keeps the womb from becoming anteflexed. Anteflexion, in exceptional cases, does occur.

Laceration, Subinvolution, Retroflexion.

This case has come quite a long distance. She is very desirous of entering the hospital, but as all the free beds are occupied, it will be impossible for me to admit her, unless it is an operative case which can be cured in a couple of weeks.

She is a married woman, twenty-five years old. Her youngest child is two years old. She was well up to the birth of her last child. The labor was a hard one, but not instrumental. She complains of difficulty in passing her water. She nursed her child eighteen months.

You notice that she talks through her nose. That always awakens a suspicion in my mind of specific disease; but she says that she has had this cold in her head only two weeks, and that she has had no eruption nor a bad sore throat.

She did not see her monthlies while nursing the child, but they came on shortly after meeting with an accident. This may have been simply a coincidence, or the accident may have furnished the exciting cause for the return of her menses. She says she has a pain in her stomach, and when I ask her to put her hand on the spot, she places it over the left iliac region. This is like the Irishman, who, saying he has a bad pain in his heart, puts his hand over his stomach. We have an old English word, belly, and it would help us greatly if this word were still in use, for I have often been led astray by a woman telling me she has pain in her stomach when she really meant her belly.

I will now see what I can make out with my finger. She plainly has a laceration of the cervix and ectropion of the mucous membrane. Just as we have ectropion of the conjunctiva, so we may have ectropion of the mucous lining of the cervix. I expect, such being the case, to find this womb enlarged and probably retroflexed. I pass the sound and find that the womb is not perfectly retroflexed, but that we have a sinistro-lateral flexion. The womb measures three inches. I presume that her bladder symptoms are wholly due to the uterine troubles.

Now, as to the treatment. I shall, to-day, introduce this pessary, which is the No. 1 of Smith's modification of the Hodge pessary. You will use six of these to one of any other kind. I shall pass this in to support the womb, passing it in behind the cervix. I now measure with my finger, to see if there is room enough between the anterior bar and the pubic bone. There is a little too much room, but we will begin with this, and then, if necessary, use a larger one after a while. A pessary alone will not cure this case. I shall also give her the following—

℞. Infusi gentianæ comp., f. ℥ vj
Potassii bromidi, ℥ ij. Solve.

Sig.—A tablespoonful directly before or after meals.

I give her this, why? Bromide of potassium is one of the best so-called anodynes for pelvic irritation. It relieves ovarian and uterine congestion and irritation. By giving it in the compound infusion of gentian, I partly conceal the taste, while, at the same time, I stimulate the digestion and increase the appetite. The next thing to do will be to make weekly applications to the cavity of the womb. I will probably also put her on the use of the fluid extract of ergot and chloride of ammonium; twenty drops of the former and ten grains of the latter three times a day. The ergot will cause the womb to contract, while the chloride of ammonium stimulates the absorbents, and thus facilitate the return of the womb to its normal size.

Editorial Department.

Periscope.

Perfectly Bloodless Operation.

The "bloodless" method of operating, recommended some years ago by Esmarch, is opposed by many surgeons, on account of the general oozing which is apt to occur after removal of the elastic tube. Esmarch describes, in *Verhandl. d. Deutschen Geselsch. f. Chirurg*, for April, 1880, the latest practical modification of his mode of procedure, by means of which such oozing may be completely prevented. In amputations, the operation is performed in the usual way, by the bloodless method; all vessels requiring ligature are then carefully sought out and tied, and the wound at once closed with catgut sutures; drainage tubes, capable of being absorbed, are introduced, and Neuber's permanent compressing dressing applied. Then, and not till then, is the elastic tube removed from the limb. After the patient is placed in bed, he should keep the stump up in the vertical position for at least half an hour. (Neuber's permanent dressing consists of an antiseptic cushion, four-cornered, made of carbolized gauze filled equally and smoothly with carbolized jute; this cushion is applied directly to the wound, and is kept firmly in place by an elastic bandage which overlaps the dressing). Of twelve amputations (nine of the leg) performed and treated in this way, secondary hemorrhage occured in none; in most of them the first dressing was not removed for fourteen days, and on it was then found only a

narrow, dry streak of blood, corresponding to the linear cicatrix. In resection the author advises that after all visible ends of vessels have been tied, the wound should be closed with the continuous glover's suture, and that the limb should then be made fast to a splint and kept elevated for at least half an hour. In fifty-six resections managed in this way since 1878, neither secondary hemorrhage nor death had occurred. Since Easter, 1879, the author had also, in his operations for diseased bone, given up the practice of plugging the cavity from which the sequestrum had been removed; instead of this he now carefully disinfects the cavity, introduces absorbable drainage tubes, closes the wound in the skin at once, and applies the permanent dressing; the last step in the proceeding is, as before, the removal of the elastic tube. Twelve cases were treated in this fashion, and in none of them did secondary hemorrhage occur; in all of them the wound remained aseptic, and in several instances complete primary union took place. Esmarch also states that he has frequently adopted, and with similar results, the same method in various other operations on the extremities, such as the removal of tumors from these parts; in the neighborhood of the shoulder and hip joints, however, it is a matter of much greater difficulty to carry out the above directions, and so to obtain a perfectly bloodless operation.

Watching the Pulse During the Administration of Chloroform.

Dr. W. Munro, of Manchester, writes, as follows, to the *British Medical Journal*, August 7th, 1880:—

After many years of experience in giving chloroform, both in private practice and as a hospital surgeon, I view with some apprehension the views lately put forward by some of your correspondents, that there is no need to watch the pulse in giving chloroform, only the respiration. In inhaling it myself I observed that about a minute was occupied between the time of inhalation and the maximum effect being produced, so that if the patient's pulse begin to intermit, that time has to elapse between the time that the chloroform is taken from the mouth, *with the effects of the chloroform still deepening in intensity*. Surely, then, it is of importance to note the very faint beginning of such mischief.

I have never seen a death caused by chloroform, but I have seen a few cases in which it was necessary to stop the operation for a time, on account of the effects of the chloroform, which, in these cases, always acted firstly on the heart. In no case have I seen cessation of the respiration. The experience, however, of death by chloroform in the human subject of any one medical man is necessarily so limited, and the circumstances of such deaths are so little favorable for scientific observation, that I think it is highly dangerous to found a mode of practice on the ideas of one or two, who may be inclined to look on the cessation of respiration as the first danger to be avoided, and the only one to be carefully looked for. Perhaps, in regard to this, I may be allowed to speak from my experiments made on animals in 1875–76.

In these experiments, *inter alia*, I found that in cats, when chloroform was rapidly administered (the best way, in my opinion, as avoiding that saturation of the blood with chloroform which is apt to be produced by slow administration, and which renders stoppage of the heart's action, if it does occur, almost surely fatal) the systolic action of the heart *invariably* ceased before respiration. If the chloroform was then removed at once, it was sometimes easy enough to restore animation, but if the chloroform was continued until the respiration stopped also, the chances of recovery were infinitely reduced, and disappear when auricular action ceases. I found on post-mortem examination and experiment that chloroform invariably stopped the action of the heart when found on it.

Wishing to protect the heart's action against the chloroform, I, after several preliminary experiments, used a large, but not a lethal, dose of atropine, injected about an hour previously to the administration of the chloroform. I now found that the respiration invariably stopped before the heart's action, stoppage of the latter being exceedingly difficult to produce in one case; indeed, I could not kill the cat, though I gave it chloroform in as strong saturation as I possibly could for thirty-five minutes (two minutes being generally sufficient to kill), and recovery after stoppage of respiration was generally *spontaneous*, respiration recommencing of itself; but when I pushed the chloroform till all signs of heart movement were stopped, the effects were the same as if no atropine had been given.

Whatever opinions may be held as to the propriety of continuing the use of chloroform as an anæsthetic, it is still used by many every day, and while it continues to be so, it is of importance that all precautions for using it safely should be taken.

In conclusion, I may say that I should be glad to know that any hospital or other surgeon who still continues to use chloroform often was taking advantage of the hints to be gleaned from my experiments as to the use of atropine as a heart protector during its administration.

Abscess of the Spleen.

The following case is reported in the *Medical Record*, August 21st, 1880, by George H. Stone, M. D., Acting Assistant Surgeon, Marine Hospital Service, Savannah, Ga.:—

Frank Taylor, a native of Savannah, Georgia, aged thirty-two years, married. Has been employed for several years on the tug-boats running on the Savannah River, residing during that time on Hutchinson's Island, opposite the city. The surface of that island consists of reclaimed rice fields, and up to 1877 was overflowed at every tide. The island is one upon which no white person could live with impunity before it was drained, and very few choose to risk it now.

From September 12th to September 19th, 1878, I treated the patient for remittent fever and diarrhœa. From April 11th to April 16th, 1879, he was again under treatment for eczema

cruris. July 2d, 1879, I was called to see him, and found him suffering from remittent fever and splenitis. Acute splenitis developed, and on August 4th, 1879, his condition not having improved, he was admitted to St. Joseph's Infirmary Hospital.

On admission his temperature was 104°, pulse 120; the fever remitting in the evening. In a few days the acute febrile condition subsided, leaving behind pain over the spleen. Percussion developed immense enlargement of the spleen to the median line in front, downward almost to pelvis. General debility, with hectic flushes every day. The general prostration gradually increased until about September 10th, when I detected fluctuation. On the 14th day of September, 1879, I introduced an aspirator needle, and drew away 1000 c.c. of pus, after which the tumor subsided to half its former size. The aspiration was repeated on the 21st and 29th with a like result.

On the 10th of October, after inducing anæsthesia with chloroform, I made an incision just above the crest of the ilium, where the pus seemed to point, and evacuated 250 c.c. of pus. The abscess continued to discharge until his death, November 14th, 1879. At the post-mortem examination (which was only partial, on account of decided opposition of his friends) the abdomen was opened, and the viscera were found healthy, with the exception of the spleen, which organ had been entirely absorbed, except the capsule, which formed the sac of the abscess and enclosed the pus.

The Operative and After Treatment of Amputation of the Supra-vaginal Uterus, in Fibroma.

Dr. Dorff, Assistant Physician to the Gynæcological Clinique in Freiburg, gives, in No. 12, *Centralblatt für Gynakologie*, 1880, an account of eight cases in succession in which, by Hegar or by Kaltenbach, the uterus had been removed on account of fibroid tumors, all of which were successful, and all had been treated since August, 1879. The author objects to Pean's extra-peritoneal method, as hitherto practiced, on two grounds: first, that it is usually not, or at least not completely, extra-peritoneal Only when the cervix is very mobile or very long does it permit of being so far drawn out as that the ligatures lie in front of the abdominal wall. In other cases they lie between the edges of the abdominal incision, and even in the peritoneal cavity, beneath the serous membrane. The second objection to the Pean method is the usually rapid onset of decomposition in the stump, and the great difficulty in keeping it antiseptic. To avoid the first difficulty, Hegar stitches the peritoneum close to the stump below the ligatured point, so that the stump comes to project free from the bottom of a short conical or funnel-shaped cavity, the sides of which are formed by the thickness of the abdominal wall, and communication with the peritoneal cavity is completely shut off. To avoid sepsis in the stump, Hegar, partly by experiment on animals, partly by observation of operation cases, has arrived at the result that the stump can only be kept securely aseptic by dryness and keeping away of every kind of moisture. This end is effected in these operations, firstly, by the most careful arrest of bleeding in the abdominal incision; secondly, the stump itself, on its cut surface and on its peripheral aspect, is cauterized as deeply as possible with Paquelin's cautery. Then the edge of the abdominal incision on the lateral walls of the funnel-shaped cavity is painted over with a ten per cent. solution of chloride of zinc, the excess of solution being carefully dried up, immediately after the painting, with small balls of cotton wool. The bottom of the funnel is avoided in this process, and a weaker solution employed for it. Small rolls of absorbent wool, which have been steeped in a weak chloride of zinc solution (1–2 per cent.) and then dried, are pushed between the stump and the edge of the wound, and the cavity thus carefully filled. The rest of the dressing must be so arranged that one may examine the stump and surroundings at any time without disturbing the dressing. If the rolls of cotton wool are moistened with blood or wound fluid, we may be sure that decomposition is setting in rapidly. The unpleasantness in this treatment is the sloughing off of the edges of the abdominal wound and its surroundings. This slough begins to come away from the sixth to the seventh day. Hegar and Kaltenbach have not seen any bad results from it. After the fifth or sixth day the chief dangers are over. These operators do not now employ Pean's ligature, but the elastic ligatures recommended by Kleeberg, in Odessa, for fibroma operations. A short account of the eight cases is then given.

Cataract Extraction.

Dr. Borysiekiewicz, in *Klin. Monatsbl. f. Augenh.*, for June, 1880, gives the result of five years' experience of cataract operation as assistant in Professor Stellwag's clinic at Vienna. The object of his paper is to point out the relative value of two different incisions which were employed in about an equal number of cases. Of the three hundred and sixty-five cases of senile cataract in which the operation was satisfactorily performed, one hundred and eighty-four were extracted by means of what he calls the "modified corneal flap incision." In this incision the puncture and counter-puncture are made 1 mm. above the horizontal diameter of the cornea, at a distance of 1 mm. from its edge, while the middle of the wound is allowed to fall within the cornea by turning the edge of the knife forward. The remaining one hundred and eighty-one were extracted through a "sclero-corneal flap incision" with a conjunctival flap. In all cases the incision was made upward, and the eye fixed by means of forceps. Chloroform was administered in seven cases. The patients were always visited within two hours of the operation. If they complained of a burning sensation in the eye, the bandage was at once removed and the lower lid slightly drawn down, so as to permit of the escape of the accumulated tears; this generally affording immediate relief. The eye itself was in all cases looked at from six to seven hours after the operation, and then twice daily. On comparing the two incisions it was found that (1) the anterior chamber was reformed within

twenty-four hours in seventy-four out of the one hundred and eighty-four cases in which the corneal flap was resorted to, and in one hundred and forty-four out of the one hundred and eighty-one operated by the sclero-corneal incision; (2) primary purulent infiltration of the wound occurred twice in the first case, not at all in the second; (3) secondary infiltration following irido-cyclitis occurred four times after the modified corneal, five times after the other incision; (4) reopening of the wound was observed fifty four times in all—thirty eight times after the modified corneal flap incision, in six of which it was followed by purulent infiltration of the wound, and sixteen times after the sclero-corneal operation, when it was followed by no bad consequences. Atropine was always used as an aid to the diagnosis of the nature of the cataract, but was also found to be of use in the prognosis; the cases in which a maximum mydryasis was not obtained were generally found to be accompanied by a troublesome amount of bleeding after the iridectomy, rendering it difficult to remove any soft matter remaining. Before operating eserine was used, as less support, it was considered, is given to the lens when the pupil is dilated, and consequently rupture of the zonula, followed by escape of vitreous, is more likely to take place; besides, the retraction of the angles of the wound of the iris is less complete under atropine. The conclusions which the author draws from his statistics are: 1. The external wound should lie in the sclerotic; 2. The incision must be more or less curved, the height of the flap being determined by the size of the nucleus; 3. The departure from the linear wound is made up for by the conjunctival flap; 4. Artificial mydriasis is of value in the prognosis. The author also makes some remarks on the extraction of the lens in its capsule. In order to find out which kind of cases are most suitable for this operation, he carefully noted all the cases in which dislocation of the lens took place, between 1874 and 1877, during the ordinary operation properly performed. He found that in two forms of cataract an easy rupture of the ligament may be anticipated—(1) In over-ripe cataracts with a large nucleus; (2) in immature cataracts of myopic eyes, which are long in ripening and have a large nucleus. Twenty-eight cataracts, nineteen of which belonged to the first and nine to the second category, were extracted in their capsule in the following manner: After a sclero-corneal incision with conjunctival flap, followed by iridectomy, the lower portion of the lens is fixed by a large, sharp iris-hook, thrust as deeply as possible through the capsule into the nuclear substance, and causing the rupture of the ligament by pushing the lower edge backward and the upper forward. This succeeded in twenty-three of the cases, one of which was followed by irido-choroiditis and two by loss of vitreous.

—Professor A. W. Hoffmann has been appointed Rector, and Professor Schroeder Dean of the Faculty of Medicine, in the University of Berlin.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——A reprint from the "Transactions of the Medical and Chirurgical Faculty of Maryland," 1880, contains a paper, by Abram B. Arnold, M.D., on "The Use of the Sphygmograph in Practice."

——*Godey's Lady's Book*, for September, has a beautiful frontispiece, entitled, "Come, Baby, Come." It contains, besides the latest fashions, "The Black Hawk Waltz," by Mary E. Walsh, and, as usual, a large amount of interesting reading matter.

——"Lacerations of the Neck of the Uterus," is the subject of a paper read before the Tippecanoe County Medical Society, at Lafayette, Ind., May 6th, 1880, by A. Reeves Jackson, A.M., M.D., which now comes to us in pamphlet form, reprinted from the *American Practitioner*.

——"Optico-ciliary Neurotomy; the Proposed Substitution of a Lost and Painful Eyeball," is the subject of a paper which was read before the Maryland Medical and Chirurgical Faculty, by Julian J. Chisolm, M.D., and now comes to us in the form of a reprint from the "Transactions" for 1880.

——"The Student's Dose Book and Anatomist Combined," by C. Henri Léonard, A.M., M.D., is a neat little 16mo volume, of sixty pages, containing a wonderfully large amount of information, in condensed form, for ready reference, in the way of doses, pharmaceutical preparations, poisons and antidotes, tests, obstetrical notes, anatomical notes, etc., etc. Price, $1.00.

——"What Constitutes a Discovery in Science," and "A Reply to the Criticisms on 'The Problems of Insanity,'" are the respective titles of two pamphlets by George M. Beard, A.M., M.D., the former being a portion of the preface to the second edition of his work on Neurasthenia, the latter an address delivered before the New York Medico-Legal Society, April 16, 1880.

——The contents of *The North American Review*, for September, are as follows: "The Ruins of Central America," Part II, by Désiré Charnay; "The Perpetuity of Chinese Institutions," by S. Wells Williams: "The Trial of Mrs. Surratt," by John W. Clampitt; "The Personality of God," by Prof. W. T. Harris; "Steamboat Disasters," by R. B. Forbes; "Insincerity in the Pulpit," by Rev. E. E. Hale; "Recent Works on the Brain and Nerves," by Dr. George M. Beard.

BOOK NOTICES.

The Medical and Surgical Directory of the State of Iowa, for 1880 and 1881. By Charles H. Lothrop, M.D. Clinton Iowa. Allen Steam Printing and Binding. pp. 172.

The work before us contains the names, post office address and professional status of the physicians practicing in the State; the various medical societies, with names and residence of the officers and members; a list of members of the American Medical Association from Iowa; rosters of the U. S. Examining Surgeons for Pensions for the State; and Medical Officers of the Iowa National Guards; also Medical Colleges, State Charitable Institutions, and Hospital; State laws relating to Medicine and Surgery; fee bills of Medical Societies in various parts of the State; a mortuary record and an index of the Physicians of the State, alphabetically arranged, with reference page to register report. The book is printed on good paper, in clear type, and neatly bound in cloth.

The Practitioner's Handbook of Treatment; or the Principles of Therapeutics. By J. Milner Fothergill, M.D., Member of the Royal College of Physicians of London; Assistant Physician to the City of London Hospital, for Diseases of the Chest, Victoria Park; Assistant Physician to the West London Hospital; Associate Fellow of the College of Physicians of Philadelphia. Second American, from the Second English Edition, Enlarged. Philadelphia, Henry C. Lea's, Son & Co., 1880. Cloth, 8vo, pp. 647.

In the introductory chapter of this work the author says, that the ultimate aim of all medical research being the treatment of disease, it is desirable that a medical man be not only well informed, but also a skillful practitioner. He further states, that the tendency of recent teaching has been to rather produce the first, leaving the second quality to develop itself, or to remain in a condition of imperfect evolution, as might fall out; in other words, medicine is cultivated as a science rather than an art. The result is that the old-fashioned general practitioner is often more successful than the highly educated physician of the present generation. The object of the work before us is to place practical medicine on a more rational basis, and to enable the practitioner to understand the reasons for adopting certain therapeutical measures which experience has taught him to be effective; it is, therefore, a work on medical tactics for the bedside rather than the examination table. It is written in pleasant, easy style, and will, we feel sure, be found to be a valuable addition to every physician's library.

Fracture of the Patella; A Study of One Hundred and twenty-seven cases. By Frank H. Hamilton, A.M., M.D., L.L.D., Author of "A Practical Treatise on Fractures and Dislocations" etc. New York, Chas. L. Bermingham & Co., Medical Publishers, 1880. Cloth, 8vo, pp. 106.

Dr. Hamilton is so well known as an authority on fractures that any work from his pen will be sure to meet with a hearty reception from the medical profession in this country. In this monograph he gives the results of the study of one hundred and twenty-seven cases, ninety-nine males and twenty-eight females, which have been treated in Bellevue Hospital. Fifty-four of these cases were under the Doctor's immediate observation. The book contains a few cuts illustrating the various methods which have been devised for keeping the fractured parts in apposition, some of which are very ingenious and at the same time simple. Much information may be gained by a persual of this book.

Transactions of the American Gynæcological Society, Vol. IV, for the year 1879. Boston. Houghton, Mifflin & Co., the Riverside Press, Cambridge, 1880. pp. 506.

The number of able papers on important subjects contained in the volume before us, shows fully the life and activity of the Society. Besides the annual address on the "Gynæcology of the Future, and its Relations to Surgery," by the President, Dr. T. Gaillard Thomas, we find papers on "Hints Relative to Intra-uterine Medication," by Dr. James P. White; "Intra-uterine Medication by Iodized Phenol," by Dr. Robert Battey; "The Treatment of Puerperal Septicæmia, by Intra-uterine Injections," by Dr. Edward W. Jenks; "Cases of Sporadic Septicæmia in Gynæcological Practice," by Dr. James R. Chadwick, and several others, which want of space prevents us from mentioning. The title of these indicate their general interest to gynæcological practice. "In Memoriam to Marmaduke Burr Wright," by Dr. Theophilus Parvin, closes the volume. A general index and a copious gynæcological index are appended. We regard these "Transactions" as a valuable contribution to gynæcological literature, and the book being handsomely gotten up, in elegant cover, it will also be an ornament to any physician's library, and reflect credit on the Society.

THE

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A WEEKLY JOURNAL,

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D. G. BRINTON, M.D., EDITOR.

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MEDICAL EDUCATION.

The question of raising the standard of medical education in this country, by making the requirements for matriculation more stringent, by extending the course of study to four or more years, and by enforcing a more rigid system of examination before granting diplomas, is one of great importance, as it concerns not only every physician, but every individual as well. As one of the probable results of such a change would be a diminution in the number of medical students, it would, of course, to a certain extent affect the prosperity of some of the colleges whose chief attraction is the facility with which degrees may be obtained. We could, therefore, hardly expect the co-operation of those directly interested in these institutions; but as the number of regular physicians in the United States at the present time probably exceeds sixty thousand, the country is in no immediate danger of a scarcity of doctors, even if the crop during the next few years should be short. We even go so far as to believe that both physicians and patients would gain thereby; the former by entering upon their duties in life better prepared, and with better prospects of success; the latter by the comparative security against ignorant pretenders which they would enjoy. Although many of our colleges afford opportunities for observation and study second to none in any part of the world—a fact which is amply proven by the large number of eminent physicians and surgeons which this country possesses, some of whom have never had time to go abroad—yet it cannot be denied that there exist in most of them chances for *slipping through*, which are unequaled anywhere else. Why should this be so? Why should not America, that is ahead in everything else, also take the lead in medical education? A perusal of Dr. Hardwicke's "Medical Education and Practice in all Parts of the World," will convince any one that in no civilized country but ours is it possible to obtain a license to practice medicine, unless the candidate shall have pursued his studies at some recognized medical school, for a period of not less than four years; and in some countries six and even seven years are required. In Norway, for instance, in order to matriculate as a student of medicine, the applicant has to pass two preliminary examinations: one in arts, including Norwegian, German, French, English, Latin, Greek, mathematics, geography, and history; and one in philosophy, including the higher mathematics, zoology, botany, astronomy, and the elements of chemistry and physics.

These examinations are very rigid, and eight years—ten months each year—are usually spent at college, preparing for the former, and two years at the university, for the latter. He then enters on the study of medicine proper, which occupies nearly seven years, after which, if he pass the final examination successfully, he is granted a license to practice. The examination for the degree of Doctor of Medicine is so difficult that few ever attempt to obtain it. In many parts of Europe, and in some of the South American republics, a six years' course of study is required before graduation; and while we think that this is rather severe, we can see no reason why the course should not be generally extended

to four years, and the matriculant be required to possess, at least, a common English education, with a sufficient knowledge of Latin and Greek to enable him to understand the etymology of medical terms. American diplomas would then be more respected, both at home and abroad, and the title of Doctor of Medicine would cease to be an object of sneers and humiliating remarks, such as have frequently been applied to it lately, and would be an honor to its possessor.

THE PRACTICE OF THE INCINERATION OF CORPSES.

In this country the question of the disposal of the dead is not as yet a pressing one. In all sections there is land enough to allow of large cemeteries at moderate prices. Hence the disposal of the dead in any other way than by the ordinary process of burial is really a matter of sentiment. In some minds there is a great horror of the "earthen house" which holds its tenant so long. They would much rather that the swift and bright element of fire should at once reduce their frame to ashes and air. Apparently the very limited number who have already left directions to have their bodies burned did so out of these reasons.

It is perfectly proper, and we should suppose no one would object to it, that facilities be provided to carry out such wishes. We are glad to learn that in addition to the crematory erected in this State by the late Dr. Le Moyne, we are soon to have another, and of more perfect construction, near Pittsburgh. It is the project of a retired merchant of that city. He contemplates the erection of a beautiful and attractive building, with verandahs, and without the same will be built seats for the convenience of those who may attend the cremations. The interior will be fitted up in a manner at once attractive and appropriate, so that there will be nothing repugnant to the sensibilities of any person in the construction of the whole building. The retorts will be so arranged that incineration will result in a little more than an hour. The fronts of these retorts will be of mica, so the process can be observed, if so desired. In fine, the whole building and appointments are to be marvels of convenience and scientific skill. Urns will also be furnished for the collection of the ashes. These urns will have stamped upon them the date of the birth, death, and cremation of the person whose ashes they hold, besides a place for photograph of deceased.

The arrangements will be quite as complete as in the crematories at Leipzig and Gotha. In these cities very suitable buildings and furnaces have been erected. The incineration in the latter has been said to have been accomplished in forty minutes. There is no smoke and no odor, the flames being driven in upon the body through a series of tubes, and the smoke being consumed as fast as formed. Societies have been organized in Germany for the popularizing of this method, the members agreeing that at death the society shall conduct the funeral rites and dispose of the corpse by fire.

The objection of the expense is a serious one, but by improved forms of furnaces and the greater economy of fuel they allow, this is slowly being overcome.

The only serious objection that has been advanced is that the utter destruction of the body immediately after death would destroy the opportunity to submit it to examination for medico-legal ends. This has been met by an Italian physician, who shows that such examinations are extremely rare, are nearly always of very doubtful result, and that by a simple system of checks any corpse brought to a crematory should be accompanied by unquestionable evidence of a natural death.

As we have said, the question is one of little immediate interest in this country. It is different in the crowded cities of the old world. In many of them the authorities are greatly put to it to dispose of the dead, and frequently the plan they adopt is disgusting. So in cities such as New Orleans, where it is often impossible to dig a grave of proper depth. In such instances, the erection of a well conducted crematory would be a boon which many would soon learn to esteem highly.

Notes and Comments.

Therapeutical Notes.

REMEDIES IN PRURITUS ANI WITH INDIGESTION.

Prof. J. P. Kingsley has, according to the *Southern Medical Record*, found the following prescriptions effective in a child five years of age:—

Internally.

℞.	Bismuthi subnit.,	ʒij	
	Syrupi simplicis,	f. ʒj	
	Aquæ, cinnamomi,	f. ʒj.	M.

Sig.—Teaspoonful three times daily.

Locally.

℞.	Acidi carbolici,	gtt. x	
	Empl. plumbi,	ʒss	
	Ungt. petrolei,	ʒss.	M.

Sig.—Apply.

The *Canada Medical Record*, for August, 1880, furnishes the following formulæ:—

SYMPATHETIC NERVOUS COUGH OF PREGNANCY.

℞.	Spiritus ætheris,	f. ʒiij	
	Tinct. chloroformi comp.,	f. ʒj	
	Acidi hydrocyanici,	♏xv	
	Liquoris morphiæ sulph.,	f. ʒj	
	Tinct. cardamon. comp.,	f. ʒvj	
	Aquæ, ad	f. ʒviij.	M.

Sig.—A sixth part every six or eight hours.

ERGOT IN PHARYNGITIS.

In chronic pharyngitis, where the blood vessels of the pharynx are enlarged and tortuous and the secretion moderate, the following is recommended:—

℞.	Ergotine,	gr. xx	
	Tinct. iodine,	f. ʒj	
	Glycerine,	f. ʒj.	M.

Sig.—Apply to the pharynx freely, twice daily, with a camel's hair brush.

TREATMENT OF BARBER'S ITCH.

Brame recommends the following treatment: Shave off the hairs, or cut them very short; then apply, once or twice a week, an ointment composed of:—

℞.	Prepared chalk	10 parts
	Coal tar,	1 to 4 "
	Glycerine,	5. "
	Simple cerate	50 "

ARISTOCRATIC REMEDY FOR ITCH.

℞.	Balsam of Peru,	1 ounce
	Benzoic acid,	110 grains
	Oil of cloves,	40 drops
	Alcohol,	2½ drachms
	Simple cerate,	7 ounces.

Dissolve the essential oil and the benzoic acid in the alcohol, and mix them with the cerate. Lastly, add the balsam of Peru. It is said to effect a cure in twenty-four hours.

Antiseptic Treatment of Gunshot Wound of the Knee Joint.

J. A. Holloway, M.D., of La., states, in a communication to the *Southern Medical Clinic*, that on the 5th of January he was called to see Albert Davis, colored, who had been shot during the night previous, in the lower part of the thigh, with thirty-nine small buckshot—one shot penetrating the knee joint—the patient remarking soon after the Doctor's arrival, that "all the oil had run out of the joint."

As the shot were small the Doctor thought it best not to disturb the one entering the joint, but removed those which had entered the other part of the leg, and which had passed almost through the leg, and lay just under the skin on the opposite side. As the patient objected to an amputation, the following antiseptic treatment was resorted to.

The wounds were kept dressed with carbolized oil, and over the lint were used towels wetted with carbolized water. Three drops of veratrum viride and three grains of salicylic acid were given every two hours, and his bowels were kept gently open.

On the morning of the 8th patient had very high fever, accompanied with very irritable stomach. In three days fever subsided, and stomach became quiet and nourished well. There was very little inflammation about the wounds, and one month from the date of the injuries he was up and walking about on crutches.

He lost the use of the tibialis anticus muscle for three or four months, but recovered from that with no other injury to the joint, and can now do any kind of labor.

Smallpox and Vaccination.

Dr. Mordey Douglas, of Sunderland, writes to the *British Med. Journal*, that the smallpox epidemic of 1870, which was more fatal in Sunderland than in any other town in the kingdom, afforded him an opportunity of judging for himself of the protective and modifying influence of vaccination. Of the 211 cases which came under his own care, and of which careful records were kept, 180 were among the vaccinated, and 31 among the unvaccinated. Of the vaccinated, only 4, a little more than 2 per cent., died; while 15, or nearly 50 per cent., of the unvaccinated succumbed. The four vaccinated who died had all been very badly vaccinated. He was particularly struck with the way in which the disease showed itself in one family. A fine, strong, healthy young man, aged 23, unvaccinated,

developed the most loathsome, dreadful case of smallpox, he had ever seen. Both he and his equally strong sister, aged 21, also unvaccinated, died; while their two little brothers (9 and 11), who presented evidence of having been fairly well vaccinated, took the disease in a very mild form. There were also other cases which impressed him strongly. For instance, he had three cases in which, while the vaccinated mother presented perhaps a dozen or twenty pocks, her unvaccinated infant was literally covered with eruption, and, of course, died. He further says, that although ten years have elapsed since the epidemic, he does not remember to have seen, among the thousands of children which have passed through his hands, at the Sunderland Hospital for Sick Children, a single vaccinated child pitted with smallpox during the whole of the time.

Apparent Death as a Result of Asphyxia.

Medical journals, says the *Medical Press and Circular*, occasionally inform us of wonderful resuscitations brought about by the persistent use of artificial respiration; but two, lately reported to the Academy of Sciences, Paris, by Dr. Fort, Professor of Anatomy in the École Pratique, are especially noteworthy, and teach us to persevere in any efforts we may make to bring back signs of life. In the case of a child three years old, who had already been placed in his shroud, Dr. Fort commenced the use of artificial respiration three and a half hours after apparent death. After four and a half hours of steady work the child was brought back to life. The other case was that of a drowned man, who had been under water for twelve minutes before the body was recovered. Artificial respiration was commenced an hour afterward, and after being kept up for hours the man was restored to life. The report of the meeting of the Academy does not give the details of the child's case before the appearance of the apparent death, nor what prompted the doctor to commence the artificial respiration.

Carbolized Camphor in Diphtheria.

The *Medical Press and Circular* informs us that Dr. Peraté has for the last two years employed carbolized camphor in the treatment of diphtheria. He applies it by means of a brush soaked in the following solution: Phenol (carbolic acid) nine grams; camphor, twenty-five grams; alcohol, one gram; diluted with an equal quantity of almond oil. The applications are made at first every two hours during the day, and every three hours during the night, and the interval between them is gradually increased. The application is made over the whole of the false membrane, and in refractory children the brush is plunged well to the back of the throat. The taste of the mixture is very disagreeable, but patients soon become accustomed to it.

Certain Points Connected with Albuminuria.

Dr. Saundby, in an able paper in the *British Medical Journal*, June 5, 1880, reviews the whole subject of albuminuria, that is, "the presence in the urine of a body coagulated by heat, or precipitated by neutralization." There being but two albuminous substances likely to be met with giving the above reactions, viz., serum-albumen and paraglobulin, Dr. Saundby endeavors to decide whether paraglobulin is ever found alone in the urine, although it is constantly present with serum-albumen. A series of carefully arranged experiments and observations appear to warrant the following conclusions. 1. The body present in urine which is coagulated by heat, or precipitated by neutralization, is almost invariably serum-albumen, rarely paraglobulin. 2. The presence of paraglobulin alone in the urine is still somewhat obscure, and has not been correlated with any clinical group of cases. 3. The maximum amount of albumen excreted by the kidneys is during the after-breakfast period, and this relation is maintained in spite of the more albuminous character of the mid-day meal. 4. While there can be no doubt that nitrogenous diet increases albuminuria, this is not due to the absorption of undigested albumen, but to the increase of nitrogenous excreta, and the consequent stimulus to the usual functions.

Bromide of Potassium Spray in Whooping Cough.

The good effects of bromide of potassium in the treatment of whooping cough are well known to all practitioners. According to Dr. Wintreben, in *La France Médicale*, the action of this remedy may be made still more efficacious by bringing it in contact with the mucous membrane of the air passages in the form of spray. The author habitually uses a solution of bromide of potassium, one in twenty, and repeats the application of the spray for one minute after each fit of coughing, when the mucous membrane of the breath passages, free from the mucus which usually covers it, is accessible to the action of the remedy.

CORRESPONDENCE.

The Non-Conductivity of Fat.

ED. MED. AND SURG. REPORTER.

In an interesting case, relative to the non-conductivity of fat, reported in the Cincinnati *Lancet and Clinic*, by Dr. E. S. Boland, of Boston, an abstract of which appeared in a recent number of the REPORTER, he thinks he has verified his proposition by making an autopsy on a stout, very obese woman, who died at the end of a week of acute mania, and in whom he found the portal temperature 110.5°F. She had then been dead two hours and fifteen minutes, had been washed and laid out, and had an ice-tank on her chest and abdomen for fifteen minutes prior to commencing the autopsy. He also says: "The interesting feature connected with this case is, the persistence of the interior heat, after bathing, ice applications, etc."

While admitting that fat is, in a measure, a non-conductor of heat, should we, in this case, attribute the high temperature of the portal system to this fact alone? May not the *very means used to cool* the body have concentrated the internal heat in the liver, thereby raising its caloric to 110.5°F., which was probably a higher degree than ever reached during her life? This idea was suggested to me by an old experiment Prof. Bache, of Jefferson College, used to make before his class, a quarter of a century ago, viz: after heating half a gallon of water in a retort, to ebullition, he would extinguish the fire, and throw cold water upon the surface of the retort, for a dozen or more times, at intervals of a minute or more, when the water would boil freely in every instance.

Of course, this phenomenon was the result of both condensation of steam and concentration of heat.

JAMES E. DANIELLS, M.D.

Baltimore, Md.

How to Make a Cheap Galvanic Battery—Additional Suggestions.

ED. MED. AND SURG. REPORTER.

Since the publication of my article in the REPORTER, of July 3d, several inquiries have been received by mail on certain points not understood by those who are probably novices in electro-therapeutics. These refer principally to the solutions, and as time and engagements will not permit separate answers, a few remarks in the REPORTER may suffice, inasmuch as all will thus see them. That the directions in the article on construction are clear enough is evidenced by the fact that within my own knowledge three batteries have been already made by gentlemen who were not familiar with the subject before its publication.

First Point.—The simplest solutions to manage are, cupric and zinc sulphate. Keep a reserve supply of each in a large champagne bottle. Where the battery is used an hour or two daily water alone will be needed for three months, unless a cell gives out. If the copper solution *bleaches or turns yellow* throw it away and renew from the reserve. If the zinc solution becomes discolored *in any way* renew it. Examine the cells once a week throughout, and the plates need not be disconnected to do this; lift them out carefuly, but see that connections are *tight* when they are replaced in the cells.

Second Point.—The copper plates are not sensibly worn for a long time—mine are good yet, and, in the particular battery described, are over two years old. The zincs wear in proportion to the use of the battery, and are little acted on when at rest, provided always that the circuit is broken after ceasing its use. As the anode and cathode are in different cells, there can be no internal action beyond that caused by deposition of copper upon the porous wads, which, however, always takes place first on the under side, and should be detected long before penetrating through to the inside of the tube. Sheet zinc turns black at once, which does not matter; but if it gets scaly, scrape or wash it thoroughly. If flakes from it deposit in the tube, remove them by filtering, or renew the liquid. When, with good connections, the power fails to a decided degree, renew the solutions throughout

Third Point.—Few electrodes or rheophores are needed, but these depend on the taste or skill of the operator. The better plan at first is to select a few of them from an illustrated catalogue, which can be obtained from numerous dealers; thereafter make your own.

WM. R. D. BLACKWOOD, M.D.

246 *North Twentieth street.*

NEWS AND MISCELLANY.

Union Medical Association.

The third annual meeting of the Union Medical Association, composed of the Lancaster, Chester, Berks, Dauphin, Cumberland, Schuylkill, Harford and Cecil County Societies, took place at Tell's Hain, about one mile from Lancaster, Pa., August 26th. Representatives from all the counties named were present, and many of the physicians were accompanied by their families, the assemblage numbering between two hundred and three hundred people. A business meeting was held at 10.30 A.M., after which Dr. John L. Atlee, President of the Association, delivered an address. Dr. Atlee, though an octogenarian, is as hale and hearty as most men of fifty, and can enter into the spirit of an occasion like this with a zest equal to any of them. At 1 o'clock a magnificent banquet was spread, and toasts and responses of an exceedingly interesting character were indulged in. It began raining about noon, but Tell's Hain is fortunately provided with a commodious building, and here the pleasure seekers found ample accommodation, and the rain did not in the least dampen their ardor. The Committee of Arrangements, to whom the success of the affair was largely due, was as follows: Dr. George R. Welchaus, Chairman, Lancaster; Dr. Paul A. Hartman, Harrisburg; Dr. W. Stump Forwood, Darlington, M.D.; Dr. Alexander Craig, Columbia; Dr. John Montgomery, Chambersburg; Dr. D. D. Kennedy, Oxford, and Dr. R. H. Miller, Delaware County.

Three Unqualified Practitioners Sentenced to Death.

The *Medical Times and Gazette*, August 14th, 1880, says:—

Society may be congratulated upon the fact that within the past week three persons belonging to the class which preys upon the weakness of human nature have been brought to justice, and found guilty. At the Warwick Assizes, a man named Haywood was indicted for the willful murder of a young woman residing at Birmingham, whose post-mortem examination showed that the deceased died from blood-poisoning arising from an internal wound, the position of which left no doubt that it had been inflicted in an attempt to procure abortion. And at the Central Criminal Court, a man and his wife, who dexterously carried on their traffic as herbalists, the one at Bristol the other at Yeovil, were found guilty of the murder of an unfortunate woman who had been induced to submit to an operation to procure a miscarriage. Sentence of death was passed in each case, and all the prisoners were recommended to mercy. The sentence of the law will not, therefore, be carried into effect; but at any rate, as all the prisoners are persons advanced in years, there is no fear that they will again be let loose to prey upon the weak and foolish.

A Tax on Privies and Sewers.

The *Bombay Gazette* reports that Mr. Crawford, the second Assistant Collector, and Vice President of the Municipality of Dholka, Ahmedabad, has issued a notice imposing taxes on houses, *privies and sewers*. Eight of the unofficial members of the municipality, having in vain protested against this taxation, on the ground that the people were too poor to bear the burden, have tendered their resignations, and memorialized the Governor of Bombay on the subject. The taxation of privies and sewers is a novelty to us, and indicates curious views of political economy on the part of the promoters. "We could understand," says the *Lancet*, in commenting upon this, "a public grant of money for the purpose of encouraging persons to construct privies and sewers, but privies and sewers as a source of revenue is a form of taxation which must be classed with that barbarous form of which we had an example here in the window tax."

Infanticide.

The law in Schwetz, Switzerland, as just adopted by the local legislature, very singularly makes a distinction between legitimate and illegitimate children. The crime of infanticide will be punished with death only when the victim is a child born in wedlock.

OBITUARY NOTICES.

—Professor Ferdinand Von Hebra, the distinguished dermatologist, died in Vienna, on August 25th, at the age of 64.

—Dr. Eugene Broadmeadow, of Clifton, N. J., seventy-one years of age, and one of the oldest practicing physicians in that State, died at Ocean Park, suddenly, of heart disease.

—We are also informed that Dr. T. J. Thomason, of Perrineville, N. J., died on the 21st ult. Dr. T. was formerly President of the New Jersey State Medical Society, and had filled other prominent positions in the State.

—We are sorry to learn of the death of Dr. Frank H. Davis, of Chicago, which occurred on the 22d ult. Deceased was the son of Professor N. S. Davis. He was a young physician of no small ability, and devoted much of his time to medical literature.

—Dr. Henry M. Bedford, of No. 66 Fifth Avenue, New York, died, August 19th, at Richfield Springs, of a lingering illness. He was a son of the late Dr. Gunning S. Bedford, in his time one of the most distinguished physicians of New York, and a brother of ex-City Judge Gunning S. Bedford, and of Dr. Frederick Bedford. He was unmarried, and about thirty-eight years of age. He formerly had a large practice, which he was compelled to relinquish in consequence of failing health.

QUERIES AND REPLIES.

A correspondent asks some one to give him a good remedy for corns.

Dr. E. M. M., of New York State, requests some one to give him a remedy for the itching of the scalp and falling off of the hair.

MARRIAGES.

BRYANT—FISH.—In Austin, Minn., July 22d, by Rev. C. D. Belden, Dr. J. H. Bryant and Mrs. C. A. Fish, both of St. Paul, Minn.

CLARK—ALTHAUSE.—In New York city, August 16th, 1880, at the residence of the bride's parents, by the Rev. Rufus W. Clark, D.D., William W. Clark, M.D., of this city, and Mary Louise, youngest daughter of John J. Althause, Esq.

GARDNER—GARDNER.—August 11th, 1880, at the residence of the bride's father, by the Rev. G. C. Lyman, Dr. H. D. Gardner, of Beaumont, Pa., and Miss Addie Gardner, of Dalton, Pa.

LA ROCHE—MONTGOMERY.—In New York, August 4th, by Rev. John S. Gilmor, Dr. Phil. B. La Roche and Lurana Warner Montgomery, all of New York city.

RYALL—HEARST.—July 21st, 1880, at the residence of the bride's parents, by Rev. J. P. Black, assisted by Rev. John Foy, Thos. Ryall, M.D., of Savannah, O., and Miss Kate E. Hearst, of Salem, Nebraska.

STOUGH—PRESTON.—August 10th, 1880, at the residence of the bride's mother, by Rev. J. W. Reese, Dr. J. F. Stough, of Niles, O., and Miss Rachel Preston of Lordstown, O.

TEBBETTS—BIBBY.—In Hanover, N. H., June 29th, by Rev. S. P. Leeds, J. W. Tebbetts, M.D., of Manchester, and Annie Bibby, of Hanover.

DEATHS.

BEDFORD.—At Richfield Springs, on Friday, Aug. 20th, Henry Moore, eldest son of Jane M., and the late Dr. Gunning S. Bedford.

PERRY.—Suddenly, at Garrison's, Aug. 17th, 1880, Helen Doty, wife of Dr. Stafford G. Perry, of New York city.

SIMPSON.—At Hudson, N. Y., on the 25th ult., Dr. E. Simpson.